



Drawn by: KPL	Roman H. Fieger III PLS Chief, Survey Section	Approved:	DATE: DEC. 05, 2013 Edward F. Gawarecki Chief, NY/P.A. Navigation and Maintenance Section
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U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
BUFFALO, NEW YORK 14207-3199

BLACK ROCK CANAL
& TONAWANDA HARBOR, NY

PROJECT CONDITION SOUNDINGS 2013

SCALE: 1" = 200'

Sheet
reference
number:
VH — 105

Sheet 5 of 9




LEGEND OF SYMBOLS	
17+00	CHANNEL STATIONING
◊ 417	CHANNEL CORNER
⊙ H.L.F.	HARBOR LINE CORNER
— —	FEDERAL CHANNEL
— — —	HARBOR LINE
Ⓕ	CAN BUOY
Ⓖ	NUN BUOY
Ⓗ	LIGHTED BUOY
Ⓕ	FIXED LIGHT
Ⓖ	LIGHT HOUSE
W	LIGHT COLOR WHITE
R	LIGHT COLOR RED
G	LIGHT COLOR GREEN
FL	FLASHING LIGHT
F	FIXED LIGHT
Oc	OCCULTING LIGHT
Iso	EQUAL INTERVAL
AL	ALTERNATING
Q	QUICK (FLASHING)
S	LIGHT CYCLE SECONDS


SITE SPECIFIC NOTES:

1. PROJECT DEPTHS AND SOUNDINGS ARE REFERRED TO LOW WATER DATUM AS NOTED ON MAP.
2. HORIZONTAL CONTROL IS REFERRED TO NORTH AMERICAN DATUM 1983 NEW YORK STATE PLANE COORDINATE SYSTEM—WEST ZONE.
3. PROJECT DEPTH IS 21 FEET.
4. SOUNDINGS WERE TAKEN BY THE BUFFALO DISTRICT ARMY CORPS OF ENGINEERS BY D. BANNING AND PARTY ON DECEMBER 02, 2013 THROUGH DECEMBER 03, 2013 USING:
RTK GPS POSITIONING SYSTEM POS—MV VER.4 AND HEMISPHERE MBX—4
SONAR HEAD: 240 KHZ, SEABAT 7101 MULTIBEAM
1.5 DEGREE BEAMS 210 DEGREE ARC
HEAVE PITCH AND ROLL; APPLANIX POS—MV VER. 4
VELOCITY PROFILER; RESON SVP 15
HYPACK SURVEY SOFTWARE
SURVEY LAUNCH "CROTTY"
5. THE SOUNDING INFORMATION DEPICTED ON THE MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATE INDICATED AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITION AT THAT TIME.
6. THE TOPOGRAPHIC INFORMATION IS BASED ON AERIAL PHOTOGRAPHY ACQUIRED FROM 1998 THROUGH 2004.
7. THIS SURVEY WAS PERFORMED IN ACCORDANCE WITH THE STANDARDS OUTLINED IN CORPS OF ENGINEERS HYDROGRAPHIC SURVEY MANUAL EM 1110—2-1003.

CHANNEL CORNER COORDINATES		
Point #	Northing	Easting
450	1083668.6827	1052317.5265
448	1085868.5612	1051262.4068
1431	1083574.0592	1052995.7931

SOUNDING COLOR LEGEND

 DEPTHS 0.1' OR MORE
ABOVE PROJECT DEPTH

 DEPTHS AT OR BELOW
PROJECT DEPTH